

Publication

EP 0917290 A3 19990526

Application

EP 98123372 A 19941223

Priority

- EP 94120564 A 19941223
- JP 32766993 A 19931224

Abstract (en)

[origin: EP0660518A1] In a device for encoding a pulse phase difference or controlling an oscillation frequency based on delayed signals sequentially output by a delay circuit, the encoding of a pulse phase difference or the oscillation control can be simultaneously performed using a single delay device. There is provided a frequency converter including a ring oscillator consisting of inverting circuits interconnected in the form of a ring, a pulse phase difference encoding circuit for encoding the cycle of a reference signal into a binary digital value based on a pulse output by the ring oscillator, an arithmetic circuit for multiplying or dividing the binary digital value by a predetermined value to generate control data and a digitally controlled oscillation circuit for generating a pulse signal in a cycle in accordance with the control data based on the pulse output by the ring oscillator, the ring oscillator being shared by the encoding circuit and oscillation circuit. This makes the time resolution of the encoding and oscillation circuits constant, thereby allowing accurate frequency conversion. <IMAGE>

IPC 1-7

H03K 5/26; G01R 25/08

IPC 8 full level

G01R 25/00 (2006.01); **G01R 25/08** (2006.01); **G01R 29/02** (2006.01); **H03K 3/03** (2006.01); **H03K 3/354** (2006.01); **H03K 5/00** (2006.01); **H03K 5/135** (2006.01); **H03K 5/26** (2006.01); **H03L 7/06** (2006.01); **H03L 7/085** (2006.01)

CPC (source: EP US)

H03K 3/0315 (2013.01 - EP US); **H03K 5/135** (2013.01 - EP US)

Citation (search report)

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- [A] US 5179438 A 19930112 - MORIMOTO TAKESHI [JP]
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EP 0660518 A1 19950628; EP 0660518 B1 19990609; DE 69418987 D1 19990715; DE 69418987 T2 20000316; DE 69430334 D1 20020508; DE 69430334 T2 20021114; EP 0917290 A2 19990519; EP 0917290 A3 19990526; EP 0917290 B1 20020403; JP 2900772 B2 19990602; JP H07183800 A 19950721; US 5477196 A 19951219

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